



NAVAL FACILITIES ENGINEERING SERVICE CENTER  
Port Hueneme, California 93043-4370

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# User's Guide

## UG-2032-ENV

### CALENDER YEAR 1998 -- POLLUTION PREVENTION ANNUAL DATA SUMMARY (P2ADS) GUIDE

Prepared by

Environmental Information  
Systems Branch

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## **EXECUTIVE SUMMARY**

The purpose of this guide is to help you prepare your Pollution Prevention Annual Data Summary (P2ADS) for Calendar Year 1998. Because of the changes in the reporting requirements, it is important that the person responsible for completing the P2ADS report read this guide thoroughly.

The Pollution Prevention Annual Data Summary (P2ADS) replaced both the solid waste and the hazardous waste annual reports (SWAR and HWAR). This change was announced by Chief of Naval Operations (CNO) letter 5090 Ser N451D/7U530414 of 28 October 1997 and is reflected in Chapter 14 of OPNAVINST 5090.1B. This change was made to ease the reporting burden, while maintaining environmental data integrity. The Naval Facilities Engineering Service Center (ESC) will collect P2ADS data by installation and provide the data back to the claimants for review. Data will then be finalized and submitted to CNO.

P2ADS tracks the Department of the Navy's progress in meeting the Department of Defense Measures of Merit (MOM) goals for solid and hazardous waste. The Measures of Merit goals call for a 50% reduction of hazardous waste between 1992 and 1999. The two solid waste Measures of Merit have been replaced by a single diversion MOM starting with this year's reporting. See Chapter 2 for details.

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## CHAPTER 1--P2ADS INTRODUCTION

**1.1 PURPOSE.** The Pollution Prevention Annual Data Summary (P2ADS) tracks the Navy's progress in meeting the Department of Defense Measures of Merit goals for solid and hazardous waste. The Measures of Merit (MOM) goal for hazardous waste calls for a 50% reduction of manifested hazardous waste by 1999 using 1992 as the baseline. A new solid waste MOM goal has replaced the two previous ones. The new goal calls for a 40% diversion from landfilling and incineration while maintaining the economic benefit of recycling and composting.

Both the solid and the hazardous waste annual reports (SWAR and HWAR) have been replaced by the P2ADS as announced by CNO letter 5090 Ser N451D/7U530414 of 28 October 1997. This change was made to ease the reporting burden while maintaining environmental data integrity. This guide will assist you in preparing the P2ADS for Calendar Year 1998. The Naval Facilities Engineering Service Center (ESC) will collect the data by installation and provide this data back to the claimants for review. Data will then be finalized and submitted to CNO.

**1.2 SCOPE.** This guide contains three chapters, P2ADS introduction, solid waste instructions, and hazardous waste instructions. We acknowledge that most activities have a hazardous waste manager AND a solid waste manager. Therefore, this guide has been designed to allow it to be separated into two separate complete guides. Chapter 2 is a solid waste report guide and Chapter 3 is a complete hazardous waste report guide. This will enable your program managers to complete their sections of the report and merge the forms together for a combined submission.

Chapter 1, P2ADS introduction, reporting requirements and the report due date.

Chapter 2, solid waste, consists of six sections. Section 2.1 contains general instructions that specify reporting requirements, who should report, and when to report. Section 2.2 contains detailed instructions of how to answer each question on the form. Section 2.3 contains the conversion factors for common items. Section 2.4 is a glossary of terms and acronyms. Section 2.5 is a sample report that illustrates how the form should be completed. Section 2.6 provides a blank solid waste report form.

Chapter 3, hazardous waste, consists of six sections. The general instructions in Section 3.1 specify who should report and when. The form instructions in Section 3.2 contain detailed instructions on how to answer each question on the form. A sample report, in Section 3.3, illustrates how the form should be completed. Section 3.4 is a glossary of terms. Section 3.5 contains a list of process codes and descriptions. Section 3.6 provides a blank hazardous waste report form.

NOTE: As previously stated, this guide is designed to be separated. Chapter 2 contains all the directions and forms necessary to complete the solid waste section. Chapter 3 contains all the directions and forms necessary to complete the hazardous waste section.

**1.3 REPORTING INSTALLATION OR SHORE ACTIVITY.** Installations or host activities are expected to report for their tenants. Refer to the solid or hazardous waste chapters for specific directions

**1.4 REPORTING REQUIREMENTS.** OPNAVINST 5090.1B and MCO P5090.2 require Navy and Marine Corps shore activities, worldwide, to report solid and hazardous waste. The Pollution Prevention Annual Data Summary (P2ADS) was announced by CNO letter 5090 Ser N451D/7U530414 of 28 October 1997 and combines the solid and hazardous waste reports. This change will be incorporated into a change to OPNAVINST 5090.1B.

**1.4.1 SOLID WASTE—WHO MUST REPORT?** Installations that generate one or more tons of solid waste per day are required to report. The form is provided in Chapter 2. Another way to determine if you must report is based on population. If the installation's population is 300 or more you are probably generating about one ton of solid waste per day or about 250 tons per year. Refer to Chapter 2, Section 2.2, for guidance in completing the report.

**1.4.2 HAZARDOUS WASTE—WHO MUST REPORT?** Installations that generate an average of 220 pounds per month (2,640 pounds per year) or more of hazardous waste are required to complete the hazardous waste report form provided in Chapter 3. Installations that are conditionally exempt small quantity generators—those that generate less than 220 pounds a month and whose information is not submitted by a host installation—are not required to report. Refer to Chapter 3, Section 3.2, for guidance in completing the form.

**1.5 P2ADS-WHEN IS IT DUE?** Submit Calendar Year 1998 P2ADS to the ESC by 16 March 1999.

**1.6 HOW DO I REPORT?** The P2ADS report may be any combination of these three reporting options:

**OPTION 1.** Send paper reports to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER  
ATTN: ESC 424/ANDERSON  
1100 23RD AVENUE  
PORT HUENEME, CA 93043-4370

You may FAX your report to: ESC424/Anderson at (805) 982-4832 or DSN 551-4832. FAXED reports will be accepted as the official report.

**OPTION 2.** Use our P2ADS software and submit via e-mail. A software program is available for electronic reporting. The software requires Windows 95 to operate. You may submit your report via e-mail to Margaret Anderson at [andersonmj@nfesc.navy.mil](mailto:andersonmj@nfesc.navy.mil) or Nancy Owen at [owenne@nfesc.navy.mil](mailto:owenne@nfesc.navy.mil).

Request the software by contacting any of the solid or hazardous waste contacts listed below:

- **Solid Waste:** Carolejo Adams, DSN 551-4872, (805) 982-4872  
Wallace Eakes, DSN 551-4882, (805) 982-4882
- **Hazardous Waste:** Margaret Anderson, 551-3008, (805) 982-3008  
Nancy Owen, DSN 551-2642, (805) 982-2642

**OPTION 3. FOR SOLID WASTE REPORTERS.** USE DESCIM issued SWAR-Base software. See Chapter 2 for complete instructions. **FOR HAZARDOUS WASTE REPORTERS.** If you have your own hazardous waste software and can export files, you can send the exported files. See Chapter 3 for complete instructions.

**1.7 WHAT IF I NEED HELP?** We will gladly assist you. Contact one of our experts listed above, under Option 2.



## CHAPTER 2--SOLID WASTE

**2.1 GENERAL--SOLID WASTE DATA COLLECTION.** There are three options for submitting your P2ADS solid waste information. You can submit a paper report, a P2ADS software report, or a SWAR-Base software report.

**OPTION 1, PAPER REPORT.** Send the hazardous waste and the solid waste sections to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER  
ATTN: ESC 424/ANDERSON  
1100 23RD AVENUE  
PORT HUENEME, CA 93043-4370

You may also FAX your report to ESC424/Anderson at (805) 982-4832 or DSN 551-4832.

Note: If you prepare only the solid waste part of the report, please coordinate with the person responsible for preparing the hazardous waste part and send both sections to ESC 424/Anderson.

**OPTION 2, P2ADS SOFTWARE REPORT.** Use our P2ADS software to submit your report electronically via e-mail. A software program is available from ESC on diskettes or by downloading from our homepage. The software is in Access 7.0 and requires Windows 95, Windows NT or Windows 98 to operate. You may submit your report via e-mail to Carolejo Adams at [adamsch@nfesc.navy.mil](mailto:adamsch@nfesc.navy.mil).

Request the software by contacting any of the solid or hazardous waste contacts listed below:

- **Solid Waste:** Carolejo Adams, DSN 551-4872, (805) 982-4872  
Wallace Eakes, DSN 551-4882, (805) 982-4882
- **Hazardous Waste:** Margaret Anderson, 551-3008, (805) 982-3008  
Nancy Owen, DSN 551-2642, (805) 982-2642

To download the software from our home page:

- Our home page URL is <http://www.nfesc.navy.mil/>
- Select environmental services on the left hand side of the page. This will take you to the Environmental Page.
- Select "Pollution Prevention Annual Data Summary (P2ADS) Software - (Note: File size is 11.2 MB, so it will take 95 minutes to download using a 28.8 KBPS modem). (Download)" to start downloading the program.
- Double click on the download file to unzip and install.
- There is an instructions manual available.

**OPTION 3, SWAR-Base SOFTWARE REPORT.** If you are using DESCIM issued SWAR-Base software, you must have the latest version. You may obtain the latest version by downloading it from the Defense Environmental Network and Information eXchange bulletin board (DENIX BBS) at [www.denix.osd.mil](http://www.denix.osd.mil) or by calling the DESCIM help desk (Table 2-1) to request a copy on diskette or CD. From the DENIX BBS select DESCIM PMO, then SWAR-Base, then the latest release.

An excellent tutorial is also available on DENIX BBS at <http://www.denix.osd.mil/denix/DOD/Training/descim-tutorial.html>. We recommend that users download the tutorial and review prior to downloading and using SWAR-Base.

If you use the DESCIM SWAR-Base software, follow the manual's instruction to create an export file. Send the diskette or attach the file to an e-mail, and send to Carolejo Adams at [adamsch@nfesc.navy.mil](mailto:adamsch@nfesc.navy.mil); Margaret Anderson at [andersonmj@nfesc.navy.mil](mailto:andersonmj@nfesc.navy.mil), or Nancy Owen at [owenne@nfesc.navy.mil](mailto:owenne@nfesc.navy.mil). You can also print an individual survey copy and mail or fax it to us.

**Table 2-1 DESCIM SWAR-Base Software Sources**

DESCIM Help Desk	(410) 679-0508	DSN 584-6818
DENIX Bulletin Board	Home Page	<a href="http://www.denix.osd.mil">www.denix.osd.mil</a>
DENIX Bulletin Board	DOD Page	<a href="http://www.denix.osd.mil/denix/DOD/dod.html">http://www.denix.osd.mil/denix/DOD/dod.html</a>
DENIX Bulletin Board	Public Page	<a href="http://www.denix.osd.mil/denix/Public/public.html">http://www.denix.osd.mil/denix/Public/public.html</a>

**Notes:** The DENIX home and public pages are not restricted. To access the DOD page, you must have a logon and password. If you don't have one, go to the home or public page and request a password by completing the information about your organization. To get the DESCIM SWAR-Base software, log on to the DOD page, select DESCIM PMO under information on the left side of the page and follow the instructions for downloading the software.

Detailed instructions for downloading DESCIM SWAR-Base software and manual:

- From DESCIM page scroll down to "Functional Areas", select SWAR-Base.
- Under software select "Latest Release".
- Enter your password again and if you get security message say "yes".
- In directory you will find four files dated 12-18-97.
- Download readme file for instructions.
- Download "swb112\_h.zip" to put on your hard disk.
- Download "swb112\_f.zip" to put on a floppy disk.
- Download "swb112\_m.zip" for the manual.
- Readme file contains instruction to unzip and install SWAR-Base.

### 2.1.1 CY98 SOLID WASTE REPORTING CHANGES.

(1) Two questions were added for permitted landfills: (1) who issued the permit, and (2) the type of permit. See Question 10.

(2) We do not collect information on medical waste. Those using SWAR-Base may enter it if they wish.

(3) A single MOM goal replaced the two previous ones. The new goal reads: "By the end of FY2005, ensure the diversion rate for non-hazardous solid waste is greater than 40%, while ensuring integrated non-hazardous solid waste management programs provide an economic benefit when compared with disposal using landfilling and incineration alone."

(4) SWAR-Base software available from DESCIM has been updated. If you use SWAR-Base, you must use the new version.

(5) Question (13) is new. The information will be used to calculate the economic benefit for the MOM goal. It asks for landfill and incinerator tipping fees.

**2.1.2 WHO MUST REPORT?--SOLID WASTE.** Change 1 to OPNAVINST 5090.1B and MCO P5090.2 require Navy installations, Marine Corps installations, and government owned contractor operated (GOCO) facilities worldwide, that generate one or more tons of solid waste per day, to report solid waste data. Another way to determine if your installation meets the one ton per day requirement uses the size of the on workforce or resident population. Populations greater than 300 normally generate about one ton per day, or about 250 tons per year. The Naval Facilities Engineering Service Center (ESC) will collect the data and provide it to claimants. Data will then be finalized and submitted to CNO.

**2.1.3 HOST AND TENANT RELATIONSHIP.** Installations are expected to report for their tenants. As most solid waste collection is performed for all activities at the installation, the installation or host activity shall report the solid waste information using the P2ADS form or P2ADS software, or SWAR-Base software. The installation should include information for all tenants. The term installation or host activity is defined in more detail in Paragraph 2.4.

Here's an example: At a large naval station, the host installation will report the solid waste information for the entire installation. In our example, the naval station solid waste information includes the total solid waste generation, recycling, disposal, and cost information for the host and tenant activities located within the boundaries of the installation. If the host installation has an Air Force, Army, Coast Guard, or other tenants, the tenant information will be reported in the host report. Conversely, Navy or Marine Corps activities on an Army Base, Air Force base or other DOD installations will provide their solid waste information to their reporting hosts. You need not make a separate report to the Navy. Government owned contractor operated (GOCO) facilities must report their solid waste information according to DOD Instruction 4714.4.

**2.1.4 WHO'S EXEMPT FROM REPORTING--SOLID WASTE.** Non-shore activities are exempt from reporting solid waste information. However, their information is included in the solid waste information submitted by the shore installation. Ships, field units, air squadrons and similar deployed commands normally do not have to report. The information for these units is collected and reported by the host activity or installation receiving their waste.



Here's an example: While in port, ship's solid waste will be reported by the naval station; aircraft squadron waste will be reported by the host air station, and so forth.

Navy shore activities that are tenants of other DOD installations do not have to report their solid waste information to the ESC. However, you may be requested to provide information to your host installation who will report for you. Navy and Marine Corps tenants at other DOD installations should retain a copy of the host's reporting transmittal letter for their records.

If your installation is due for closure in the reporting year, you still must report. For example, if the installation closed in July, solid waste information from January to July must be reported to ESC. This can be done by the installation staff or by NAVFAC Base Alignment and Closure (BRAC) staff. Once the installation has been turned over to NAVFAC, the report is no longer required.

If the installation, including tenants, generates less than one ton per day of solid waste, you do not have to complete the solid waste section of the P2ADS. Installations that fall into this category are generally small facilities such as Navy and Marine Corps reserve centers, small communications centers, etc. An alternative way to determine if you need to report is population based. Shore activities with less than 250 employees should generate less than one ton per day and do not have to report. If you are uncertain or need advice, call your Naval Facilities Engineering Command Engineering Field Division solid waste contact. See Table 2-2 for phone numbers.

**2.1.5 WHO PREPARES THE P2ADS, SOLID WASTE SECTION?** The answer to this question varies from installation to installation, and, of course is up to your command. We recommend that the installation environmental engineer or solid waste program manager complete the solid waste section. Navy and Marine Corps environmental regulations require installations to report their solid waste information. Installation environmental engineers usually complete similar environmental reports each year and are accustomed to coordinating with other departments inside and outside the facilities management group.

**2.1.6 WHERE DO I GET THE SOLID WASTE INFORMATION?** The information necessary to fill out the solid waste form can be gathered from a number of sources. The public works transportation office normally is responsible for solid waste disposal and can provide weight tickets and the total amount of solid waste generated. The contracts office can provide solid waste information if solid waste service is contracted out. The Defense Reutilization and Marketing Office (DRMO) can provide recycling revenues. Recycling information can be obtained from the Morale, Welfare, and Recreation (MWR) office, which usually operates the installation recycling program. Commissaries and exchanges often run specific recycling programs and generally keep excellent records. Reports should also include installation waste which is recycled by civilian organizations. Another source of information is the installation Qualified Recycling Program (QRP) instruction which describes how recycled materials are collected and sold, and how revenues and expenditures are tracked. Some of the general information such as the activity population is available at your public affairs department, administrative office, or housing office.

**2.1.7 WHEN IS THE REPORT DUE?** The reporting period is the calendar year, from 1 January

through 31 December 1998. The completed solid waste information must be received at the ESC by 16 March 1999. An information copy should be submitted to your claimant. Of course, early submission is acceptable and encouraged. . **NOTE: Remember to attach the P2ADS solid waste data to your P2ADS hazardous waste data before submitting—coordinate with your hazardous waste program manager.**

**2.1.8 ARE THERE OTHER SOURCES FOR SOLID WASTE INFORMATION?** Your Naval Facilities Engineering Command (NAVFACENGCOM) Engineering Field Division (EFD) or Engineering Field Activity (EFA) has a solid waste contact who can assist you. Table 2-2 lists the NAVFACENGCOM solid waste contacts. This is a good source for sanitary landfill information, solid waste engineering studies, or similar engineering information not readily available at your installation. Another source of solid waste information is your claimant's environmental contact, who can assist you regarding resource budget planning.

<b>Table 2-2 NAVAL FACILITIES ENGINEERING COMMAND (NAVFACENGCOM)</b>				
<b>COMMAND</b>	<b>NAME</b>	<b>CODE</b>	<b>DSN</b>	<b>COMMERCIAL</b>
NAVFACENGCOM	Trembly, Scott	ENV/ST	325-9315	(202) 685-9315
LANTDIV	Thompson, Charles	1813	262-4767	(757) 322-4767
PACDIV	Hirano, Glenn	1812	(315) 474-5988	(808) 474-5988
NORTHDIV	Wiese, George	1812	443-0567	(610) 595-0567(X128)
SOUTHDIV	Harrell, Rob	1835	563-0551	(803) 743-0551
SOUTHWESTDIV	Maderos, Al	5721	522-2633	(619) 532-2633
EFAWEST	Lind, Larry	1822	494-2527	(415) 244-2527
EFA NORTHWEST	Haelsig, Bryan	184BH	744-0060	(206) 396-0060
EFA CHES	McCrary, Tom	1823	325-3298	(202) 685-3298
EFA MED	Stigile, Kevin	N8	(314) 622-4720	39-081-568-4720x380
EFA MIDWEST	Hoyer, Mark S.	N451B	792-6934	(847) 688-6934(X58)
ESC	Adams, Carolejo	424	551-4872	(805) 982-4872
ESC	Eakes, Wallace	426	551-4882	(805) 982-4882
ESC	Comstock, John	426	551-5315	(805) 982-5315

**2.1.9 MEASURED OR ESTIMATED VALUES.** We need accurate information to show Navy and Marine Corps status and for reporting MOM goals. You can convert volume to mass, (i.e., cubic yards to tons) by referring to the density of various wastes in Section 2.3 and using the materials that most accurately represents what is generated at your installation. These values are reported as estimates of the weight. The general formula is:

$$\text{Tons} = \text{Volume(Cubic Yards)} \times \text{Density}\left(\frac{\text{Ton}}{\text{Cubic Yard}}\right) \quad \text{or}$$

$$\text{Pounds} = \text{Volume(Cubic Yards)} \times \text{Density}\left(\frac{\text{Pounds}}{\text{Cubic Yard}}\right)$$

$$2000 \text{ Pounds} = 1 \text{ Ton}$$

If you do not have the exact figures, such as the weight in tons of recycled waste, you can estimate the volume and then convert it to tons. You must convert volume to tons (2,000 pounds equals a ton). In general, non-compacted municipal solid waste is about 250 pounds per cubic yard. See Section 2.3 for conversion figures.

**2.1.10 REPORTABLE AND NON-REPORTABLE SOLID WASTE.** Solid waste, in general terms, includes all recycled items and the items that are discarded and taken to the sanitary landfill. However, not all solid waste is reported in the P2ADS solid waste section. **Excluded** solid waste categories are liquid waste, radioactive waste, hazardous waste, ordnance and explosive waste, petroleum waste, used oils, excess hazardous materials sold by the Defense Reutilization Marketing Office, and any other waste listed in the hazardous waste section of P2ADS. In the SWAR-Base software “red bag” or infectious medical waste is included even though it may be considered a biohazard. However, P2ADS does not collect medical waste information. Used oils, petroleum products, and fuels that are recycled are not to be reported in the solid waste section of P2ADS or SWAR-Base. Table 2-3 shows some examples of reportable solid waste and Table 2-4 shows non-reportable solid waste:

TABLE 2-3, REPORTABLE SOLID WASTE		
trash and garbage wood waste, tires scrap metal lead (not batteries) zinc cooking grease sonar buoy tubes (plastic)	asphalt non-hazardous sludge non-hazardous sand blast grit mess hall waste solid waste from ships solid waste from hospitals non-hazardous incinerator ash non-hazardous sewage sludge	municipal solid waste recycled solid waste de-milled ordnance scrap metals anything that goes to a sanitary landfill *green waste or yard waste construction demolition and debris

\*If your contractor does not remove the green waste but leaves it you do not need to report this as tons generated or cost incurred in collection. Many “mulching lawn mowers” cut grass in fine particles that can be left rather than collected for disposal. The cost we want to capture are the collection cost of the green waste. If your contractor changes his practices to using a mulching mower, this is a source or waste reduction. Don’t report source reduction as recycling in the P2ADS.

TABLE 2-4, NON-REPORTABLE SOLID WASTE		
any hazardous waste petroleum, oils, and lubricants recycled used oil (HW report) recycled lead acid batteries hazardous sludge & sandblast grit solid waste disposed at sea	recycled hazardous waste hazardous incinerator ash radioactive waste hazardous materials sold by DRMO sanitary sewage & wastewater ordnance wastewater formalin	all batteries machine tool coolant antifreeze all liquid waste recycled hazardous materials solvents items reported in Chapter 3

**2.1.11 DESCIM SOLID WASTE SOFTWARE.** You can use the current version (1998) of SWAR-Base software for electronic reporting, rather than sending us the paper form. Additionally, if you use the software throughout the year to track your solid waste data elements reporting is simplified. You can send the data to the ESC on computer disk. All installations or host activities are encouraged to use this system. The SWAR-Base User Guide and software is available from DESCIM. Refer to Section 2.1, Option 2 for additional information. The SWAR-Base software is supplied on 3 ½ inch high density floppy disk or can be downloaded from the DENIX bulletin board. The user guide is organized so that only basic computer knowledge is needed to install and run the software. If you have any questions regarding the software operation, contact the DESCIM Help Desk at (410) 679-0508 or DSN 584-6818. If you use SWAR-Base to keep your solid waste data, we recommend you fill out the P2ADS form and submit it to ESC.

**2.1.12 WHAT IS THE SOLID WASTE DATA USED FOR?** We will use solid waste data collected from Navy and Marine Corps activities to determine the Navy's solid waste status. We can project trends and strategies ranging from solid waste avoidance techniques, such as source segregation, packaging controls, and recycling. Much of our solid waste is recyclable. By recycling we can generate revenues to offset the cost of collection or provide funding for other projects. The ESC will report solid waste data and analysis to the Chief of Naval Operations, the claimants, and the Naval Facilities Engineering Command.

In many regions, mandatory solid waste reduction laws are being enacted. For example, California solid waste reduction goals are 25% reduction by 1995 and 50% reduction by 2000. The solid waste data collected will show Navy and Marine Corps achievements in solid waste reduction. Additionally, the Department of Defense (DOD) is tracking the amount of solid waste each service is recycling and the amount of solid waste that is being reduced as set forth in the Measures of Merit Goals issued by DOD Instruction 4715.4.

**2.1.13 WHERE TO GET HELP.** Contact: Carolejo Adams, DSN 551-4872 or (805) 982-4872, or via e-mail at [adamsch@nfesc.navy.mil](mailto:adamsch@nfesc.navy.mil), or Wallace Eakes, DSN 551-4882 or (805) 982-4882, or via e-mail at [eakesws@nfesc.navy.mil](mailto:eakesws@nfesc.navy.mil).

**2.1.14 THE NEW MOM DIVERSION GOAL.** Non-Hazardous Solid Waste Diversion Rate MOM is *"By the end of FY2005, ensure the diversion rate for non-hazardous solid waste is greater than 40%, while ensuring integrated non-hazardous solid waste management programs provide an economic benefit when compared with disposal using landfilling and incineration alone."*

The equation for calculating the diversion rate is shown below:

$$\text{Diversion Percentage} = \frac{\text{Tons Recycled} + \text{Tons Composted}}{\text{Tons Recycled} + \text{Tons Composted} + \text{Tons Incinerated} + \text{Tons Landfilled}} \times 100$$

The economic benefit or integrated solid waste management cost avoidance equation is shown below.

$$\text{PDC} - \text{ADC} = \text{ISWM CA}$$

Where

PDC = Potential disposal cost if all waste were to be landfilled or incinerated in dollars.

ADC = Actual disposal cost of integrated solid waste management (in dollars).

ISWM CA = integrated solid waste management cost avoidance (dollars)

### 2.1.15 CALCULATING NEW MOM GOAL. Using the data from our example in Section 2.5

#### 12. SOLID WASTE ANNUAL OPERATIONS SUMMARY

OPERATIONS A	TONS B	COST C	REVENUES D
Landfilled	4,035	\$270,000	
Incinerated	2,000	\$100,000	\$0
Composted	100	\$20,000	\$100
Recycled	1,620	\$80,000	\$98,000

#### 13. WHAT IS THE TIPPING FEE FOR YOUR MUNICIPAL/COMMERCIAL:

[The commercial tipping fee in dollars per ton is needed to calculate the economic benefit of the MOM goal. For installations with landfills or incinerators give the local commercial tipping fee (dollars per tons)]

A. Landfill \$ 30 B. Incinerator \$ 40

for PWC Smalltown, we will calculate the new MOM goals. First, we can calculate the diversion rate from the information in Question 12, Column B.

$$\begin{aligned} \text{Diversion Percentage} &= \frac{\text{Tons Recycled} + \text{Tons Composted}}{\text{Tons Recycled} + \text{Tons Composted} + \text{Tons Incinerated} + \text{Tons Landfilled}} \times 100 \\ &= \frac{1,620 + 100}{1,620 + 100 + 2,000 + 4,035} \times 100 \\ &= \frac{1,720}{7,755} \times 100 \\ &= 22\% \end{aligned}$$

Next, calculate the economic benefit part of the MOM. Cost avoidance is the cost savings from diverting solid waste from the landfill or incinerator. There are several ways to calculate cost avoidance. For P2ADS, use the following DOD formula. Look at questions 12 and 13 in Section 2.5 sample of PWC Smalltown for data use in the sample calculations below.

$$\text{Integrated Solid Waste Mgmt. Cost Avoidance} = \text{Potential Disposal Cost} - \text{Actual Disposal Cost}$$

Where PDC is (cost of landfilling) + (cost of Incineration) + (Sum of tons composted and recycled X tip fee)

Where ADC is (sum of cost) - (sum of revenues)

#### Step 1, Calculate PDC

$$\begin{aligned} \text{PDC} &= (\$270,000 + \$100,000) + (1,720 \text{ tons} \times \$30) \\ &= \$370,000 + \$51,600 \\ &= \$421,600 \end{aligned}$$

We used \$30 tipping fee because it received the most waste. When in doubt, use landfill tipping fee.

## Step 2, Calculate ADC

$$\begin{aligned}\text{ADC} &= (\text{sum of cost}) - (\text{sum of revenues}) \\ &= (\$270,000 + \$100,000 + \$20,000 + \$80,000 - (\$100 + \$98,000)) \\ &= \$470,000 - \$98,100 \\ &= \$371,900\end{aligned}$$

## Step 3, Calculate ISWMCA

$$\begin{aligned}\text{ISWMCA} &= \text{PDC} - \text{ADC} \\ &= \$421,600 - \$371,900 \\ &= \$49,700\end{aligned}$$

Our example shows PWC Smalltown has achieved 22% diversion but needs to increase it another 18% to achieve the goal of 40% or better. The economic benefit of solid waste management at PWC Smalltown is positive which is good. PWC Smalltown has to embark on a program to increase composting and recycling. They need to contact their EFD for engineering assistance to determine how they can achieve the diversion goal while maintaining a positive economic benefit.

**2.2 DETAILED INSTRUCTIONS FOR COMPLETING THE FORM.** The installation solid waste information form has 15 questions. This chapter will list each question and describe the information needed. If you need additional space for your answers, insert a blank page or use the comments section to complete the information. A sample completed form is provided in Section 2.5 and a blank form is provided in Section 2.6.

1. INSTALLATION NAME. Enter the installation name as listed in the Plain Language Address Directory (as used on naval messages addressed to you).
2. INSTALLATION (UIC). Enter the Unit Identification Code (UIC) of the installation or host activity submitting the report. Prefix the UIC with an "N" to indicate a Navy activity or an "M" to indicate a Marine Corps activity. If you don't know your UIC, you can look it up in Navy Comptroller (NAVCOMPT) Manual Volume 2, Chapter 5 (NAVSO P-1000-256).
3. SOLID WASTE CONTACT. Enter the name of the person preparing the report—normally this is the person designated as the installation solid waste manager. This person is responsible for providing information for the P2ADS—solid waste section. Please provide an alternate contact, especially if you are military and "rotate" every two years. You can list additional personnel and related information in comments.
4. CONTACT, TITLE/CODE. Enter the title, department and mail code, if any for the person preparing the report.



5. TELEPHONE NUMBER, FAX, and E-MAIL. List four telephone numbers. Please provide your commercial and DSN phone numbers and commercial and DSN numbers for your facsimile machine. Also, please provide your Internet or e-mail address.

6. INSTALLATION POPULATION. List populations for each category as requested below. Do not send a "total" population. Instead, categorize the base population as accurately as possible.

A. MILITARY RESIDENT. Number of military personnel and their dependents who live on base or in government operated housing maintained by the base. This includes fleet personnel and others home ported at the installation or base.

B. MILITARY NON-RESIDENT. Number of military personnel who work regularly at the installation but live off base in non-government housing. Non-residents work on the installation but live off base.

C. CIVILIAN RESIDENTS. Number of civilians and their dependents who live on base or in government operated housing maintained by the base.

D. CIVILIAN NON-RESIDENTS. Number of civilians who work regularly at the installation but live off base in non-government housing.

7. DOES THE INSTALLATION HAVE A SOLID WASTE MANAGEMENT PLAN (SWMP)?

Indicate by checking "yes" or "no". Change 1 to Chapter 14 of OPNAVINST 5090.1B and Chapter 10 of MCO P5090.2 require shore activities (installations) to develop and use a Solid Waste Management Plan. The solid waste management plan and issuing instruction shall address the solid waste generation, collection, disposal and management. If you do not have a SWMP and issuing instruction indicate "no". If you do have a SWMP and implementing instruction, answer "yes".

The SWMP Guide, NEESA 5.0-004 of September 1993, is available through the ESC Technical Information Center. You can obtain a copy by writing to Commanding Officer, Naval Facilities Engineering Service Center, Technical Information Center, ESC122, Port Hueneme, CA 93043-4328, or by faxing your name and address to DSN 551-1409 or commercial (805) 982-1409. Remember to include the name and number of the publication! Additionally, you may request the publication through the Internet using the following address: [vanreenanjm@nfesc.navy.mil](mailto:vanreenanjm@nfesc.navy.mil).

8. LIST TENANTS OR OTHER ACTIVITIES COVERED BY THIS REPORT. List tenants that have a population or workforce of 100 or more—use the table provided. These should include only tenants at your installation that generate one ton a day or greater for whom you are reporting. You can list tenants on a separate piece of paper, if necessary, to complete this section. List tenant activity short title name and UIC.

9. DOES THE INSTALLATION HAVE QUALIFIED RECYCLING PROGRAM (QRP)?

Indicate by checking "yes" or "no". A solid waste recycling program generally has a plan or instruction and an organization running the program. A QRP is a recycling program established at

an installation by an instruction. The instruction sets up an accounting system to track the money generated from sale of recyclable materials, and usually also provides for a suspense account with DRMO. QRP requirements are discussed in the Qualified Recycling Program (QRP) Development Guide, NFESC UG-2003-ENV, which is available from the ESC. To request this document send a fax with your name and address to ESC Technical Information Center, DSN 551-1409 or (805) 982-1409. Remember to include the name and number of the publication! Additionally, you may request the publication through the Internet using the following address: vanreenanjm@nfesc.navy.mil. If you have a formal or informal recycling program you may check "yes".

10. DOES INSTALLATION HAVE AN ACTIVE PERMITTED DISPOSAL FACILITY. If you have an active disposal facility permitted by federal, state, or foreign government at your installation that receives solid waste or refuse, check "yes". If not, check "no". IF YES, WHO ISSUED THE PERMIT? Indicate who permitted the facility, federal, state, or foreign government. WHAT TYPE OF PERMIT WAS ISSUED? Indicate if the permit is for a landfill, incinerator, compost facility, or and inert/rubble facility. If you have more than one permitted facility or have additional comments about your selection, please use the comments section to note the information. Resource Conservation and Recovery Act (RCRA) is an amendment to the Solid Waste Disposal Act (SWDA) of 1984. Information on this topic can be found under RCRA 42 USC 6901.

11. SOLID WASTE RECYCLED CATEGORIES. We track recycled solid waste by eight categories: metals, glass, plastic, food, wood, yard trimmings or green waste, paper, and other non-food. Items you recycle that are hazardous waste should be listed in the hazardous waste section—see Chapter 3.

SOLID WASTE RECYCLED (by category). List the non-hazardous solid waste you recycle in this table. You can summarize your recycled amounts into the eight categories mentioned above. For example, combine the aluminum cans, brass, and copper into a single item under metals. Under the glass category add all the colored glass (clear, green and amber). Paper category includes cardboard and paperboard. Green waste category for this question does not include compost reported in Question 12. It does include backyard composting and mulching usually from the housing area. If your trimmings go to an on or off base compost facility, it is entered under composting, Question 12.

TONS. List the number of tons recycled for each category. Volume must be converted to tons. See Section 2.3 for conversion factors. To get total tons for each category, sum all recycling tons for the QRP program, industrial operations (NWCF organizations), and installation materials recycled on and off the installation by contractor or vendor.

12. SOLID WASTE ANNUAL OPERATIONS SUMMARY. Landfilled, incinerated, composted, and recycled are the operations. For each operation provide the annual tons and annual cost. Annual revenues (if any) should be provided for all operations except landfilled. The ESC will calculate cost avoidance from the figures you provide.

The annual cost should include labor, operation and maintenance cost, and equipment cost associated with these operations. Do not include military labor cost or the cost of pollution



prevention equipment provided to the installation by the Navy Pollution Prevention Equipment Program (PPEP). For installations that contract out refuse management, use total contract amount for the appropriate operation (landfilling or incineration, or recycling). If the refuse contract is for incineration, landfilling, and/or recycling, provide the appropriate dollar value to each operation.

LANDFILLED. Record the total annual tons of installation solid waste disposed of in a landfill in Column B. The total tons include those tons landfilled on and off the base and from incinerator ash generated from installation incinerators. List the annual cost of landfilling operation in Column C. For installations with firm fixed refuse contracts, list the annual contract cost. For installations with refuse contracts that had add-on or additional services, total all the cost for the annual cost. For installations that have their own refuse operations, include government cost of collection and disposal. Check with public works or base maintenance for the figures. Do not include military labor cost or the cost of pollution prevention equipment provided to the installation by the Navy Pollution Prevention Equipment Program (PPEP). There is no revenue or cost avoidance for landfilling. If disposal tons or cost vary by 10% from the previous year, explain why in the comments Section 14.

INCINERATED. Record the total annual tons of installation solid waste disposed of in an incinerator on or off the installation in Column B. Ash generated by the installation's incinerator shall be included in landfilled amount above. List the annual cost of incineration in Column C. For installations with firm fixed contracts for incineration, list the annual contract cost. For installations that have their own incinerator operations, include government, and/or contractor cost of collection and disposal. Do not include military labor cost or the cost of pollution prevention equipment provided to the installation by the Navy Pollution Prevention Equipment Program (PPEP). Check with public works or base maintenance for the figures. For government owned incinerators, any energy recovered that is sold can be listed under revenues, Column D. There is no cost avoidance for incineration. Generally there are no revenues for incineration. Note: We do not track medical waste. Do not record medical waste incineration operations.

COMPOSTED. Record the annual tons of installation yard waste, green waste, and other organic materials composted in Column B. Tons composted include materials composed on and off the installation as well as mulching and chipping tonnage. Mulching lawn mower grass clippings left on site are not to be counted as composted. Organic materials that were disposed in the landfill should be recorded under landfilling. Record the annual government or contractor composting operations cost in Column C. Annual costs include composting, chipping, and mulching operations as well as equipment cost, maintenance cost, and labor cost. Record any revenues from the sale of composted, mulched, or chipped material under composting revenues in Column D. The ESC will calculate cost avoidance using figures provided.

RECYCLED. Record the annual tons recycled in Column B. Installation generated solid waste can be recycled on or off the installation. Total annual tons of solid waste recycled in Column B is the same amount as the total of Question 11. Total tons recycled by the QRP

and by non-QRP programs. For contracted recycling programs, get the tons recycled from the contractor. Record the annual cost for installation recycling programs in Column C. This is a total of operations, maintenance and labor cost for recycling. For recycling, military labor and cost of equipment from the PPEP is not counted as cost. Even if the recycling program is run exclusively by the military, there should be some cost associated with the program. For example, vehicle maintenance, fuel, etc. List the annual revenues under the revenue section of recycling in Column D. Include revenues from QRP direct sales and QRP and non-QRP recycling sales by DRMO. For refuse contracts that include recycling pickup without revenues being returned to the installation, determine the approximate revenue value and record it in Column D. Cost avoidance will be calculated from the data supplied.

13. WHAT IS THE MUNICIPAL/COMMERICAL TIPPING FEE : We are collecting tipping fees for local private or municipal landfills and incinerators to use to calculate the economic benefit part of the MOM solid waste goal. This figure is used to calculate the potential disposal cost part of the economic benefit. The tipping fee is the dollar amount per ton charged by a landfill or incinerator for disposal. You do not need to record tipping fees for facilities your installation does not use. Mark it N/A.

- A. Landfill Record the cost per ton for disposal at the local municipal/private landfill. If you have an installation landfill, you still need to get the local commercial/municipal tipping fee. Choose the landfill tipping fee that you would use if the installation landfill were closed. For installations that have firm fixed price refuse contracts, call the local landfill for the tipping fee or ask your contractor. If you use more than one landfill, choose the tipping fee of the one that receives the most waste.
- B. Incinerator Record the cost per ton for disposal at the local municipal/private incinerator. If you have an installation incinerator, you must still provide the local commercial/municipal tipping fee. Choose the incinerator tipping fee that you would use if the installation incinerator were closed. For installations that have firm fixed price refuse contracts, call the local incinerator for the tipping fee or ask your contractor. If you use more than one incinerator, choose the tipping fee of the one that receives the most waste. We are not tracking medical waste. Do not report medical waste incineration tipping fees.

14. COMMENTS AND RELATED INFORMATION. Add any comments or related information not covered by the report—especially if reported quantities vary widely from what was reported last year. If you entered data in a manner not in conformance with instructions contained in this guide, please explain your rationale for doing so. Explain any unusual values or any significant changes from your previous report. For example, if you demolish a building, your solid waste may increase significantly. Starting or ending a contract or closing a landfill are other examples of significant changes. Also, please note if your base is on a closure list since this may affect your numbers over time.

If data changes from one year to the next, please note it in the comments. For example, if any of your data changes by 10%, please note it. Significant unexplained changes will result in a call from our solid waste program coordinator.

15. SUCCESS STORIES. Provide one or more success stories summaries. Please use the following format to describe your success. Please limit your submission to 300 words or less, about one page.

ORGANIZATIONNAME. Give the name of the activity.

CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS. Give the name, telephone number, and e-mail address of the activity contact. This should be the person who can answer questions regarding the success story.

DESCRIPTION OF THE SUCCESS. Give a description of a success that reduced or eliminated solid waste. Solid waste topics are: composting, recycling, waste reduction, cost avoidance, disposal cost reduction, and construction and demolition debris reduction/recycling.

ECONOMIC BENEFITS. Give a description of any economic benefits derived from solid waste reduction, recycling efforts, etc. Where applicable, include: (1) type and volume of materials; (2) technologies or management practices used; (3) effect on mission; and (4) operational costs, savings, and cost avoidance.

The following can be used to calculate return-on-investment (ROI) over a ten year period.

$$\$ROI = [(CURRENT - NEW)(10 \text{ year})] - [ONE TIME CAPITAL COSTS]$$

ROI = Return on investment over 10 year period.

CURRENT = Current annual operating costs. Defined as cost to operate and maintain process before new technology or new management practice is implemented. Consider materials purchased, disposal/ treatment costs, labor, utilities.

NEW = Annual operating and maintenance costs of new technology or new management practice. Consider materials purchased, disposal/ treatment costs, labor, utilities. If you receive money from recycling using the new technology or management practice please add this adds to the ROI.

ONE TIME CAPITAL COSTS = Cost for new equipment plus installation costs. Include any decommissioning or changeover costs as part of installation.

Include equipment depreciation and other cost factors if significant to present a return on investment that's more representative of your situation.

POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS. Give a description of pollution prevention or environmental benefits derived from the solid waste success. Where applicable, include: (1) type and volume of materials; (2) collection and storage methods; (3) sales agent (DRMO or local installation); (4) operating expenses, profits, and disposal costs avoided; (5) how profits are being used; (6) education and training; and (7) community or regional involvement.

OTHER BENEFITS AND COMMENTS. Give any benefits other than those listed above and any other comments regarding the success of reducing or eliminating solid waste at your activity.

NOTE: When in doubt as to whether you have a success story or not, just send us a narrative describing significant improvements to your solid waste and recycling program. If you think it's a success story, we do too!

## 2.3 CONVERSIONS OF COMMON ITEMS FROM VOLUME TO WEIGHT

### MUNICIPAL SOLID WASTE<sup>1</sup>

#### Uncompacted-loose

1 cubic yard = 250 pounds

#### Compacted

1 cubic yard = 500 pounds

### NEWSPAPER

1 cubic yard = 600 pounds

3.333 cubic yards = 1 ton

one 12" stack = 35 pounds

### CORRUGATED

#### Uncompacted-bailed

1 cubic yard = 285 pounds

7.018 cubic yards = 1 ton

#### Compacted

1 cubic yard = 507.6 pounds

3.940 cubic yards = 1 ton

### OFFICE PAPER

#### Bulk Container

1 cubic yard = 500 pounds

### GLASS

#### Loose, whole bottles

1 cubic yard = 600 pound

3.333 cubic yards = 1 ton

one grocery bag = 16 pounds

55 gallon drum = 175 pounds

#### Crushed (manually broken)

1 cubic yard = 1000 pounds

2.000 cubic yards = 1 ton

55 gallon drum = 300 pounds

#### Crushed (mechanically broken)

1 cubic yard = 1800 pounds

1.111 cubic yards = 1 ton

55 gallon drum = 550 pounds

### TRUCK TIRES

1 Tire = 90 pounds

22 tires = 1 ton

### PASSENGER CAR TIRES

1 tire = 20 pounds

100.000 tires = 1 ton

### AUTOMOBILES

1 automobile = 2052 pounds

### FERROUS CANS

#### Whole

1 cubic yard = 150 pounds

13.333 cubic yards = 1 ton

#### Flattened

1 cubic yard = 850 pounds

2.353 cubic yards = 1 ton

### ALUMINUM CANS

#### Whole

1 cubic yard = 74 pounds

27.027 cubic yards = 1 ton

one grocery bag = 1.5 pounds

#### Flattened

1 cubic yard = 250 pounds

8.000 cubic yards = 1 ton

### PLASTIC

#### PET (Soda Bottles)

1 cubic yard = 30 pounds

66.666 cubic yards = 1 ton

#### HDPE (Whole)

1 cubic yard = 25 pounds

80.000 cubic yards = 1 ton

#### HDPE (Flat)

1 cubic yard = 50 pounds

40.000 cubic yards = 1 ton

### ORGANIC MATERIALS

#### Leaves (uncomposted/uncompacted)

1 cubic yard = 250 pounds

8.0 cubic yards = 1 ton

#### Leaves (uncomposted/compacted)

1 cubic yard = 450 pounds

4.444 cubic yards = 1 ton

#### Leaves (uncomposted/vacuumed) operations

1 cubic yard = 500 pounds

4 cubic yards = 1 ton

#### Wood Chips

1 cubic yard = 500 pounds

4.000 cubic yards = 1 ton

#### Grass Clippings

1 cubic yard = 404 pounds

4.950 cubic yards = 1 ton

<sup>1</sup>Conversion factors from Solid Waste Association of North America

**2.4 GLOSSARY AND ACRONYMS--SOLID WASTE.** The words defined below are used throughout the Navy solid waste program.

**Activity.** An independent Navy or Marine Corps command performing a specific mission. Each activity has their own Unit Identification Code. (See shore activity.)

**Composting.** The controlled biological decomposition of organic solid waste under aerobic (in the presence of oxygen) conditions. The transformation of organic waste materials into soil amendments such as humus or mulch.

**Glassphalt.** An asphalt product that uses crushed glass as a partial substitute for aggregate for the mix.

**Incineration.** Burning of fuel under controlled conditions, ideally converting organics to carbon dioxide and water.

**Installation.** A Navy or Marine Corps base of operations composed of a number of Navy or Marine Corps activities, units and commands, located on the property of the host activity. An installation may have several tenants. The installation is normally surrounded by a fence. Naval Construction Battalion Center Port Hueneme is an installation with tenants such as the Naval Facilities Engineering Service Center; Naval School, Civil Engineer Corps; etc. Installations usually provide services to their tenants such as utilities, security, and trash collection.

**Integrated Solid Waste Management.** A practice of disposing of solid waste that uses several complimentary components, such as source reduction, recycling, composting, waste-to-energy, and landfill.

**Leachate.** Liquid that has percolated through solid waste or another medium and has extracted, dissolved, or suspended materials from it, which may include potentially harmful materials. Leachate collection and treatment is of primary concern at landfills.

**Mass Burn.** Incineration without prior sorting or processing of municipal solid waste in a one-chamber combustion system under conditions of excess or starved air built on site.

**MCO P5090.2.** Marine Corps instruction manual for the Marine Corps environmental program.

**Municipal Solid Waste (MSW).** Includes non-hazardous waste generated in households, commercial establishments, institutions, and light industrial wastes. It excludes industrial process wastes, agricultural wastes, mining wastes and sewage sludge.

**OPNAVINST 5090.1B.** Chief of Naval Operation instruction for the Navy's environmental program entitled "Environmental and Natural Resources Program Manual."

**PPEP.** The Pollution Prevention Equipment Program is a Navy program, administered by NAVFAC, to centrally purchase pollution prevention equipment. Solid waste equipment, such as

bailers, shredders, composting equipment, waste containers, and other solid waste equipment can be obtained through this program.

**Refuse.** Discarded material with no worth or use.

**Recycling.** A resource recovery in which a waste product is collected and treated for use as a raw material in the manufacture of the same or another product (e.g., ground glass used in the manufacture of new glass).

**Resource Recovery.** A term describing the extraction and use of materials that are used as raw materials in the manufacture of new products, or the conversion into some form of fuel or energy source. An integrated resource recovery program may include recycling, waste-to-energy, composting, and other components.

**Sanitary Landfill.** Land waste disposal site that is located to minimize water pollution from runoff and leaching. Waste is spread in thin layers, compacted, and covered with a fresh layer of soil each day to minimize pest, aesthetic, disease, air pollution, and water pollution problems.

**Shore Activity.** A Navy or Marine Corps activity located ashore, as opposed to afloat units. All those activities listed in the Standard Navy Distribution List, Part 2, OPNAV P09B2-105.

**Solid Waste:** (1) As defined in RCRA regulations (40CFR Part 1)-- "...garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities...". (2) As defined in OPNAVINST 5090.1B--any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities. It does not include solid or dissolved materials in domestic sewage; solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to National Pollution Discharge Elimination System permitted under the Clean Water Act; or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954. (3) Solid waste reported in the P2ADS solid waste section--excludes the following: any hazardous waste, petroleum, oils, and lubricants, hazardous sludge, hazardous sandblast grit, all liquid waste, recycled hazardous materials and hazardous waste, hazardous incinerator ash, radioactive waste, hazardous materials sold by DRMO, sanitary sewage, waste water, ordnance waste water, solvents, any item reported in the P2ADS hazardous waste section, or solid waste disposed at sea.

**Solid Waste Management.** The systematic administrative activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste.

**Solid Waste Management Plan (SWMP).** A plan to manage solid wastes, as required by OPNAVINST 5090.1B and MCO P5090.2.

**Source Separation.** The segregation of various materials from the waste stream at the point of generation for recycling. For example, homeowners separating paper, metal, glass from the rest of their wastes.

**Tenant.** An activity or unit that has a separate Unit Identification Code that occupies space within the geographical boundaries of another, larger, activity or installation. Tenants usually receive services from the host activity. Examples are a shore intermediate maintenance activity at a naval station, a public works center at a naval base, a naval aviation depot at a naval air station and the Naval Facilities Engineering Service Center at the Naval Construction Battalion Center Port Hueneme.

**Waste-to-Energy Incineration.** Disposal method where other than the host solid waste is either burned, as received, or after being processed to a more uniform fuel, to generate steam or electricity. Waste-to-energy plants can decrease volume by 60-90% while recovering energy from discarded products. Mass burn, modular combustion units and refuse-derived fuels are three basic types of waste-to-energy facilities. Over 100 are currently in operation in the U.S.

#### **ACRONYM**

#### **MEANING**

BRAC	Base Realignment and Closure
CFR	Code of Federal Regulations
CMC	Commandant of the Marine Corps
CNO	Chief of Naval Operations
CY	Cubic Yard and Calendar Year
DODI	Department of Defense Instruction
DENIX BBS	Defense Environmental Network and Information eXchange Bulletin Board System
DESCIM	Defense Environmental Security Corporate Information Management
DON	Department of the Navy
DRMO	Defense Reutilization and Marketing Office
EFD	Engineering Field Division
EPA	Environmental Protection Agency
ESC	Engineering Service Center
GOCO	Governmental Owned Contractor Operated
HDPE	High Density Polyethylene
HW	Hazardous Waste
MCO	Marine Corps Orders
MILCON	Military Construction
MO-213	NAVFAC Solid Waste Management Manual
MOM	Measures of Merit
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
MWR	Morale, Welfare, and Recreation
NAVFACENGCOM	Naval Facilities Engineering Command



**ACRONYM**

NAVCOMPT  
NFESC  
NWCF  
OPNAVINST  
P2ADS  
PET  
PPEP  
PWC  
PWD  
QRP  
RCRA  
ROICC  
SW  
SWAR  
SWAR-Base  
SWMP  
SWDA  
UIC  
URL

**MEANING**

Navy Comptroller Manual  
Naval Facilities Engineering Service Center  
Navy Working Capital Fund (formerly DBOF)  
Chief of Naval Operations Instruction  
Pollution Prevention Annual Data Summary  
Polyethylene Terephthalate (beverage bottles)  
Pollution Prevention Equipment Program  
Public Works Center  
Public Works Department  
Qualified Recycling Program  
Resource Conservation and Recovery Act (SW regs 40 CFR Part I)  
Resident Officer in Charge of Construction  
Solid Waste  
Solid Waste Annual Report  
Solid Waste Annual Report software for installations  
Solid Waste Management Plan  
Solid Waste Disposal Act  
Unit Identification Code  
Uniform Resource Language

**2.5 P2ADS - SAMPLE SOLID WASTE INFORMATION FORM.** The following pages are an example to help you visualize the completed solid waste information form.

**CY98 SOLID WASTE INFORMATION FORM**

1 January-31 December 1998

1. **INSTALLATION NAME:** PWC SMALLTOWN
2. **INSTALLATION UIC:** N12345
3. **SOLID WASTE (SW) CONTACT:** SALLY SAMPLE
4. **CONTACT TITLE:** ENVIRONMENTAL ENGINEER **CODE:** 123
5. **TELEPHONE NO:** **DSN:** 551-4290 **COM:** (805) 555-4290

**FAX:** **DSN:** 551-4832 **COM** (805) 555-4832

**E-Mail Address:** ssample@pwc.navy.mil

**6. INSTALLATION POPULATION:**

- A. Military Resident 1500 C. Civilian Resident 15
- B. Military Non-Resident 1500 D. Civilian Non-Resident 2000

**7. DOES THE INSTALLATION HAVE A SOLID WASTE MANAGEMENT PLAN (SWMP)?:** (A formalized plan with an issuing instruction as defined by OPNAVINST 5090.1B or MCO P5090.2, Chapter 10)

Yes X No     

**8. LIST MAJOR TENANTS OR OTHER ACTIVITIES COVERED BY THIS SURVEY:**

(Major tenants are those with populations of 100 or more. Please attach continuation sheet if necessary.)

TENANT ACTIVITY NAMES	UIC
SIMA	N78901
NAVAL TRAINING SCHOOL	N23456
NAVHOSP	N34567
MARINE BARRACKS	M89012

9. DOES THE INSTALLATION HAVE A QUALIFIED RECYCLING PROGRAM (QRP)? (Check one) Yes X No    

10. DOES INSTALLATION HAVE AN ACTIVE PERMITTED DISPOSAL FACILITY?

(Check one) Yes X No    

If yes, who issued the permit? State Gov X Federal Gov     Foreign Gov    

What type permit is it? Landfill X Compost     Inert     Incinerator    

11. SOLID WASTE RECYCLED:

RECYCLED CATEGORY	TONS
FOOD	10
GLASS	60
METALS	42
OTHER NON-FOOD	750
PAPER AND PAPERBOARD	370
PLASTIC	270
WOOD	18
YARD/GREEN WASTE (Other than composted)	100
TOTAL TONS RECYCLED (Same as 12 B Recycled below)	1,620

12. SOLID WASTE ANNUAL OPERATIONS SUMMARY

OPERATIONS A	TONS B	COST C	REVENUES D
Landfilled	4,035	\$270,000	
Incinerated	2,000	\$100,000	\$0
Composted	100	\$20,000	\$100
Recycled	1,620	\$80,000	\$98,000

13. WHAT IS THE MUNICIPAL/COMMERCIAL TIPPING FEE :

[The commercial tipping fee in dollars per ton is needed to calculate the economic benefit of the MOM goal. For installations with landfills or incinerators give the local commercial tipping fee (dollars per tons).]

A. Landfill \$ 30

B. Incinerator \$ 40

14. COMMENTS/RELATED INFORMATION: Use a separate page for additional comments, if necessary.

Question 7 - SWMP revised 20 Apr 1997

Question 12 - Hurricane in September caused damage to five structures.

Question 12 - First year compost facility operational.

Question 12 - Figures larger this year because of demolition of ten buildings.

## 15. SUCCESS STORIES.

**ORGANIZATION NAME:** PWC SMALLTOWN, CA

**CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS:** ROBERT JONES,  
(805)555-2642, jonesr@pwc.navy.mil

**DESCRIPTION OF THE SUCCESS:** We modified our janitorial contract at the installation to increase office paper recycling. The contract was modified by substituting recycling pick up for one day of trash pick up in the office spaces. This resulted in no additional cost on the janitorial contract.

**ECONOMIC BENEFITS:** The result of this contract modification was to increase our recycling paper rate by 500%. We diverted an additional 500 tons from the local landfill. That is a saving of 500 times average tipping fee of \$30 which equals \$15,000 savings annually.

**POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS:** Diversion of 500 tons from the landfill.

**OTHER BENEFITS AND COMMENTS:** Our CO accepted the award from our county for our increased recycling.

Mail completed solid waste information to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER (ESC)  
ATTN: ESC 424/M. Anderson  
1100 23RD AVENUE  
PORT HUENEME CA 93043-4370

For assistance call Carolejo Adams DSN 551-4872, (805) 982-4872, FAX DSN 551-4832.



**2.6. P2ADS--SOLID WASTE INFORMATION FORM.** Fill out and return to ESC.

**CY98 SOLID WASTE INFORMATION FORM**

1 January - 31 December 1999

1. **INSTALLATION NAME:** \_\_\_\_\_

2. **INSTALLATION UIC:** \_\_\_\_\_

3. **SOLID WASTE (SW) CONTACT:** \_\_\_\_\_

4. **CONTACT TITLE:** \_\_\_\_\_ **CODE:** \_\_\_\_\_

5. **TELEPHONE NO:** **DSN:** \_\_\_\_\_ **COM:** \_\_\_\_\_

**FAX:** **DSN:** \_\_\_\_\_ **COM:** \_\_\_\_\_

**E-Mail Address:** \_\_\_\_\_

**6. INSTALLATION POPULATION:**

A. Military Resident \_\_\_\_\_ C. Civilian Resident \_\_\_\_\_

B. Military Non-Resident \_\_\_\_\_ D. Civilian Non-Resident \_\_\_\_\_

**7. DOES INSTALLATION HAVE A SOLID WASTE MANAGEMENT PLAN (SWMP)?:**

(A formalized plan with an issuing instruction as defined by OPNAVINST 5090.1B or MCO P5090.2, Chapter 10)

Yes \_\_\_\_ No \_\_\_\_

**8. LIST MAJOR TENANTS OR OTHER ACTIVITIES COVERED BY THIS SURVEY:**

(Major tenants are those with populations of 100 or more. Please attach continuation sheet if necessary.)

TENANT ACTIVITY NAMES	UIC

9. DOES THE INSTALLATION HAVE A QUALIFIED RECYCLING PROGRAM (QRP)? (Check one) Yes \_\_\_ No \_\_\_

10. DOES INSTALLATION HAVE AN ACTIVE PERMITTED DISPOSAL FACILITY?

(Check one) Yes \_\_\_ No \_\_\_

If yes, who issued the permit? State Gov \_\_\_ Federal Gov \_\_\_ Foreign Gov \_\_\_

What type permit is it? Landfill \_\_\_ Compost \_\_\_ Inert \_\_\_ Incinerator \_\_\_

11. SOLID WASTE RECYCLED:

RECYCLED CATEGORY	TONS
FOOD	
GLASS	
METALS	
OTHER NON-FOOD	
PAPER AND PAPERBOARD	
PLASTIC	
WOOD	
YARD/GREEN WASTE (Other than composted)	
TOTAL TONS RECYCLED (Same as 12 B Recycled below)	

12. SOLID WASTE ANNUAL OPERATIONS SUMMARY

OPERATIONS A	TONS B	COST C	REVENUES D
Landfilled		\$	
Incinerated		\$	\$
Composted		\$	\$
Recycled		\$	\$

13. WHAT IS THE MUNICIPAL/COMMERCIAL TIPPING FEE :

[The commercial tipping fee in dollars per ton is needed to calculate the economic benefit of the MOM goal. For installations with landfills or incinerators give the local commercial tipping fee (dollars per tons).]

A. Landfill \$ \_\_\_\_\_

B. Incinerator \$ \_\_\_\_\_

**14. COMMENTS/RELATED INFORMATION:** Use a separate page for additional comments.

**15. SUCCESS STORIES.**

ORGANIZATION NAME:

CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS:

DESCRIPTION OF THE SUCCESS:

ECONOMIC BENEFITS:

POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS:

OTHER BENEFITS AND COMMENTS:

Mail completed solid waste information to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER  
ATTN: ESC 424/M. Anderson  
1100 23RD AVENUE, PORT HUENEME CA 93043-4370

For assistance call Carolejo Adams DSN 551-4872, (805) 982-4872, FAX DSN 551-4832.



## **CHAPTER 3--HAZARDOUS WASTE**

**3.1 GENERAL--HAZARDOUS WASTE INSTRUCTIONS.** Requirements for this report are different from the reports done for the Environmental Protection Agency (EPA) and state agencies. The intent of this report is to gather data specific to Navy hazardous waste operations, by installation. This report excludes non-Navy operations and non-Navy tenants. The installation must collect and submit reports for all of their tenants, and forward them to ESC/424.

The following requirements apply to all Navy and Marine Corps installations, including naval activities on Air Force and Army installations.

### **3.1.1 CY98 REPORT CHANGES:**

- (1) Installation restoration (IR) and RCRA corrective action (RC) wastes are not reported.
- (2) Conditionally exempt small quantity generators that are not tenants on an installation are not required to report.

### **3.1.2 WHO MUST REPORT?--HAZARDOUS WASTE:**

(1) All Class I and II generators in the continental U.S. and outside the U.S. must report. Installation reports should include all Navy tenants that generate hazardous waste. Tenants who are Class I and II generators must report to their host installation—regardless of who their claimant is (also know as their resource sponsor). For example, a naval aviation depot that is a tenant of a naval station will send their report to the naval station—even though the claimant for the naval aviation depot is the Naval Air Systems Command. The naval station will forward the tenant report and their own report to the ESC. The installation is not required to merge the reports. The installation should not include waste generated by non-Navy tenants [i.e., Defense Reutilization and Marketing Office (DRMO), Army detachments, Coast Guard, Air Force, etc.]. The receiving shore activity will include in their report all hazardous waste materials transferred from a Navy ship, as specified in OPNAVINST 5090.1B, Section 12.5.2.1.

(2) Class III generators who are not tenants are not required to report. However, Class III generators who are tenants must provide their hazardous waste information to their host installation for inclusion in the host's report.

(3) All government owned contractor operated (GOCO) facilities doing work for the Department of the Navy and using a Navy EPA generator identification number must report.

(4) BRAC activities are required to report HW generated. However, wastes generated from CERCLA cleanup or RCRA corrective actions should not be reported.

### **3.1.3 GENERATOR CLASS DEFINITIONS:**

**Class I, Large Quantity Generator.** Monthly generation quantity of 1,000 kg (2,200 pounds) or more hazardous waste or 1 kg (2.2 pounds) or more acute hazardous waste. (Equal to 26,400 pounds hazardous waste or more, or 26.4 pounds or more acute hazardous waste per year.)

**Class II, Small Quantity Generator.** Average monthly generation quantity of 100-1,000 kg (220-2,200 pounds) hazardous waste and less than 1 kg (2.2 pounds) acute hazardous waste. (Equal to 2,640-26,400 pounds hazardous waste and less than 26.4 pounds acute hazardous waste per year.)

**Class III, Conditionally Exempt Small Quantity Generator.** Average monthly generation quantity less than 100 kg (220 pounds) hazardous waste and less than 1 kg (2.2 pounds) acute hazardous waste. (Equal to less than 2,640 pounds hazardous waste and less than 26.4 pounds acute hazardous waste per year.)

**3.1.4 WHEN IS THE REPORT DUE?** The P2ADS must be received at the ESC by 16 March 1999 for Calendar Year 1998; the period from 1 January-31 December 1998. **Submit an information copy to your claimant.**

**NOTE: Remember to attach the P2ADS solid waste data to your P2ADS hazardous waste data before submitting—see your solid waste program manager.**

**3.1.5 HOW DO I REPORT?** Information may be typed or written on the forms provided in Section 3.6 or submitted on diskette. Disk submittal is preferred. Files submitted by disk should be in Xbase (dbase, FoxPro, or paradox file structure) or ASCII-comma delimited format. EPA and state forms are unacceptable.

**There are three reporting options:**

**OPTION 1.** Attach the solid waste section and send paper reports to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER  
**ATTN: ESC 424/ANDERSON**  
1100 23RD AVENUE  
PORT HUENEME, CA 93043-4370

Or you may FAX a copy of your report to: ESC424/Anderson at (805) 982-4832 or DSN 551-4832.

**OPTION 2.** Use our P2ADS software and submit via e-mail. A software program is available from ESC to report P2ADS information electronically. The software is in Access 7.0 and

requires Windows 95 to operate. You may submit your report via e-mail to Margaret Anderson at andersonmj@nfesc.navy.mil or Nancy Owen at owenne@nfesc.navy.mil.

To download the software from our home page:

- Our Home page URL is <http://www.nfesc.navy.mil/>
- Select environmental services on the left hand side of the page This will take you to the Environmental Page.
- Select "Pollution Prevention Annual Data Summary (P2ADS) Software - (Note: File size is 11.2 MB, so it will take 95 minutes to download using a 28.8 KBPS modem). (Download)" to start downloading the program.
- Double click on the download file to unzip and install.
- There is an instructions manual available.

Request the software by contacting any of the solid or hazardous waste contacts listed below:

- **Hazardous Waste:** Margaret Anderson, 551-3008, (805) 982-3008  
Nancy Owen, DSN 551-2642, (805) 982-2642
- **Solid Waste:** Carolejo Adams, DSN 551-4872, (805) 982-4872  
Wallace Eakes, DSN 551-4882, (805) 982-4882

**OPTION 3.** If you have your own hazardous waste software and can export files, you can e-mail or mail the data files to either of the **hazardous waste** contacts listed above.

**3.1.6 WHAT IF I NEED HELP?** We will gladly assist you. Contact one of our hazardous waste contacts listed above, under Option 2.

**3.2 HOW DO I COMPLETE THE REPORT FORM--HAZARDOUS WASTE?** A sample of a completed report is provided in Section 3.3. A blank form is provided in Section 3.6.

**3.2.1 CONTENT.** The hazardous waste section of the Pollution Prevention Annual Data Summary (P2ADS) is based on calendar year and is divided into three parts:

- Part A—Activity information
- Part B—Hazardous waste operations
- Part C—Success stories

### **3.2.2 PART A, ACTIVITY INFORMATION:**

1. **UIC.** Enter the Unit Identification Code (UIC) of the installation or host activity submitting the report. Prefix the UIC with an "N" to indicate a Navy activity or an "M" to indicate a Marine Corps activity. If you don't know your UIC, you can look it up in Navy Comptroller (NAVCOMPT) Manual Volume 2, Chapter 5 (NAVSOP-1000-256). BRAC installations should use the installation's original UIC.

**MARCORPS NOTE:** The UIC is not the RUC contained in MCO P1080.20L, Chapter 1.

**NOTE: ACTIVITIES IN CARETAKER STATUS**--use the activity's original UIC, not the UIC of your engineering field division or engineering field activity.

2. ACTIVITY NAME. Give the name of the reporting activity. Use the Plain Language Address, your naval message short title, i.e., NAVFACENG SERCEN Port Hueneme.
3. TENANT ACTIVITIES. List the name and UIC for all tenant activities that are **included** in this hazardous waste report. **List only tenants that generate hazardous waste. (Ship generated HW is considered to belong to the shore activity and, therefore, ships are not listed in the tenant listing.)**
4. HW CONTACT. Give the name of the activity's contact for HW. This should be the person who can answer questions regarding this hazardous waste submittal.
5. DEPARTMENT CODE. Give the organizational code of the contact listed in Number 4 above.
6. PHONE AND FAX PHONE. Give the telephone number (as dialed from continental U.S.) of the contact and indicate if the number is DSN or commercial. Also, please give the fax number of the contact and indicate if the number is DSN or commercial. DSN is preferred. Include the DSN area code if outside CONUS.
7. E-MAIL ADDRESS. Give the e-mail address of the contact provided in Number 4.
8. GENERATOR CLASS. Provide the class that indicates the **average** monthly quantity of hazardous waste that the activity generates (to determine class include all hazardous wastes generated including those recycled). See class definitions below:

Class I, Large Quantity Generator. Average monthly generation quantity of 1,000 kg or more hazardous waste or 1 kg or more acute hazardous waste. (Equal to 26,400 pounds or more or 26.4 pounds or more acute hazardous waste per year.)

Class II, Small Quantity Generator. Average monthly generation quantity of 100-1,000 kg hazardous waste and less than 1 kg acute hazardous waste. (Equal to 2,640-26,400 pounds hazardous waste and less than 26.4 pounds acute hazardous waste per year.)

Class III., Conditionally Exempt Small Quantity Generator. Average monthly generation quantity less than 100 kg hazardous waste and less than 1 kg acute hazardous waste. (Equal to less than 2,640 pounds. hazardous waste and less than 26.4 pounds. acute hazardous waste per year.)

If your activity is a tenant Class III generator, your host command will report for you. However,

you may be asked to provide information to your host. If your activity is a Class III generator and not a tenant, you are not required to report.

9. DOES YOUR ACTIVITY HAVE A POLLUTION PREVENTION (P2) PLAN? Indicate "yes" or "no". Activities that are included in the P2 plan of a host or other activity should indicate "yes". Question applies to all activities whether administrative, light industrial, or industrial. If yes, provide the date that the plan was last updated.

10. TOTAL HW DISPOSAL COST. Provide the total annual hazardous waste disposal costs for the calendar year of this report. The disposal costs should include: the costs paid to a contractor or Defense Reutilization Marketing Office; storage costs charged to you while waiting disposal; analytical costs; packaging costs; sampling costs; lab analysis costs; and public works center handling and storage fees, etc. Costs should include all management aspects associated with disposal of hazardous waste excluding salaries. Include hazardous waste disposal costs for CERCLA or RCRA corrective actions that are funded using station operation and maintenance, Navy (OMN) funds. However, do **NOT** include disposal costs associated with CERCLA cleanup or RCRA corrective action that uses environmental restoration, Navy (ERN) funds. Do not include costs to perform Defense Environmental Restoration Act (DERA) studies, e.g., PA/SI, RI/FS, etc.

11. NUMBER OF RCRA TSD PERMITS HELD. Indicate the number of RCRA treatment, storage, and disposal permits held (include state and federal issued). Do not count 90-day storage or permit by rule.

12. DO YOU HAVE OR PARTICIPATE IN A CONSOLIDATED HAZARDOUS MATERIAL REUTILIZATION AND INVENTORY MANAGEMENT PROGRAM (CHRIMP)? CHRIMP is a methodology to achieve life-cycle hazardous material control and management and pollution prevention at the command and facility levels. If you have or participate in a CHRIMP please indicate "yes". Please refer to the glossary for a definition of CHRIMP.

**3.2.3 PART B, HAZARDOUS WASTE OPERATIONS.** The data reported here should be wastes that you generated as a Class I or Class II generator; material off-loaded from a ship in port or at your activity; and waste for your Class III tenants, if any. Include hazardous material downgraded to hazardous waste after going through the reutilization, transfer, donation, and sales cycle.

Wastes listed in this part should be hazardous waste regulated under RCRA, state, or local laws. **Do not** report oil, asbestos, asphalt, or PCBs **unless** they are manifested as a hazardous waste under state laws or international agreements.

Activities who have radioactive hazardous waste (mixed waste) should provide the same range of data in the P2ADS report as they would provide to EPA in accordance with 40 CFR 264.75. We request that mixed waste be separate from the strictly hazardous waste data to clarify the difference between the two waste types.

UIC AND NAME OF GENERATOR. Specify the generator's UIC and name.

PROCESS CODE. The process code identifies the process generating the wastestream being reported. See Section 3.5 for a list of process codes and a brief explanation. Show the process code total for recycled, treated, or disposed with costs each on a separate line. (For example, if process code FC has wastes that were recycled and treated, report these wastes on two separate lines with the costs. Do not combine the pounds.) This will allow us to accurately report costs for waste recycled, treated, and disposed. An example is shown in the sample report on Page 3-10.

**NOTE: USE POUNDS WHEN REPORTING QUANTITY.**

QUANTITY BACKLOGGED. Specify the quantity, in pounds, of hazardous waste that was generated in a previous calendar year, stored in that year, and then disposed, treated, or recycled during the reported calendar year.

QUANTITY STORED. Specify the quantity, in pounds, of hazardous waste stored onsite on 31 December 1998. Quantity stored includes waste in temporary collection areas that are capped off as full. Note the following:

Report the actual status of the hazardous waste on 31 December 1998. Do not report the intermediate storage status of wastes treated or disposed before the end of the calendar year. For example, waste stored on 31 March is sent to disposal on 23 May. Part B will show a quantity under disposal only--the storage would not be reported.

Report items that are in storage, including those in temporary, less than 90 day storage, on 31 December as "stored".

If a waste has been manifested off-site (i.e., wastes manifested to DRMO) for disposal but is still in storage at the off-site facility, report it as disposed.

QUANTITY RECYCLED ONSITE. Specify the quantity, in pounds, of hazardous waste and materials recycled onsite at the reporting activity. The quantity of material reused should be listed here, while quantity of waste not reused (sludge), if known, should be listed as disposed. We will accept your report in the CY96 format (recycled quantity with a letter designator of N=Onsite, F=Offsite, or D=DRMO).

QUANTITY RECYCLED OFFSITE. Specify the quantity, in pounds, of hazardous waste and materials recycled offsite. For example, solvents sent off base through a contractor. The quantity of material reused should be listed here, while quantity of waste not reused (sludge), if known, should be listed as disposed. We will accept your report in the CY96 format (recycled quantity with a letter designator of N=Onsite, F=Offsite, or D=DRMO).

QUANTITY TREATED ONSITE. Specify the quantity, in pounds, of hazardous waste treated on-site during the calendar year. Treatment methods include neutralization, biological

degradation, and thermal treatment, incineration, ordnance open burning, and detonation. Include only those hazardous wastes that have been treated to destruction. Do not include wastes that are treated to reduce the hazard and then disposed of as a hazardous waste. Wastes manifested off-site must be reported as disposed. Wastewater that is piped from the generating source to an onsite treatment plant is not reported.

QUANTITY DISPOSED ONSITE. Specify the quantity, in pounds, of hazardous waste that was disposed of at an onsite landfill during the calendar year. We will accept your report in the CY96 format (recycled quantity with a letter designator of N=Onsite, F=Offsite, or D=DRMO).

QUANTITY DISPOSED OFFSITE. Specify the quantity, in pounds, of hazardous waste that was disposed of offsite during the calendar year. Disposed is the amount of hazardous waste that was manifested offsite for ultimate destruction or land disposal. Items contracted and shipped offsite for disposal should be listed as disposed regardless of the actual status, i.e., in storage at contractor site or DRMO. We will accept your report in the CY96 format (recycled quantity with a letter designator of N=Onsite, F=Offsite, or D=DRMO).

TOTAL COST. Indicate the total disposal, treatment, or recycling cost for each item listed in Part B. Cost information will be used for an overall Navy perspective, not for activity comparison. If cost is reported per pound, indicate on the report.

**3.2.4 PART C, SUCCESS STORIES.** Provide a **brief** summary of your installation's success stories, as appropriate.

ORGANIZATION NAME. Give the name of the activity.

CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS. Give the name, telephone number, and e-mail address of activity contact. This should be the person who can answer questions regarding the success story.

DESCRIPTION OF THE SUCCESS. Give a description of the success in reducing or eliminating a hazardous waste.

ECONOMIC BENEFITS. Give a description of any economic benefits derived from eliminating or reducing a hazardous waste. Include the following aspects, as appropriate:

- reduced disposal or treatment costs
- reduced or eliminated hazardous material purchases
- recycle materials replace new purchases
- dollars received by selling recyclables
- labor savings
- utilities savings

The following formula can be used to calculate return-on-investment (ROI) over a ten year period:



$$\text{\$ ROI} = [(\text{CURRENT} - \text{NEW})(10 \text{ yr})] - [\text{ONE TIME CAPITAL COSTS}]$$

CURRENT = Current annual operating costs; defined as cost to operate and maintain process before new technology or new management practice is initiated. Consider materials purchased, disposal and treatment costs, labor, and utilities.

NEW = Annual operating and maintenance costs of new technology or new management practice. Consider materials purchased, disposal and treatment costs, labor, and utilities. If you received money from recycling using the new technology or management practice then add this to the ROI.

ONE TIME CAPITAL COSTS = Cost for new equipment plus installation costs; include any decommissioning or changeover costs as part of installation.

Include equipment depreciation and other cost factors if significant to present a return on investment that is more representative of your situation.

POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS. Give a description of pollution prevention or environmental benefits derived from reducing or eliminating a hazardous waste.

Consider the following in your narrative:

- Elimination of a hazardous waste stream
- Compliance issues:
  - meeting compliance requirements through pollution prevention
  - eliminating need for permits
  - meeting further reduction requirements or recycling goals, local or regional goals beyond the DOD Measures of Merit, such as diversion of waste from landfills
- Safety issues:
  - Have you reduced employee's exposure to toxic chemicals?
  - Have you eliminated the need for personal protection equipment?
- Time and effort saved

OTHER BENEFITS AND COMMENTS. Give any benefits other than those listed above and any other comments regarding the success of reducing or eliminating a hazardous waste at your activity.

**NOTE:** When in doubt as to whether you have a success story or not just send us a narrative describing significant improvements to your hazardous waste program. If you think it's a success story, we do too!



### 3.3 P2ADS - HAZARDOUS WASTE-- SAMPLE REPORT

#### PART A: CY98 INSTALLATION INFORMATION

1. UIC: N12345

2. INSTALLATION NAME: PWC SMALLTOWN

3. LIST MAJOR TENANTS OR OTHER ACTIVITIES COVERED BY THIS SURVEY:  
(Please attach continuation sheet if necessary.)

TENANT ACTIVITY NAMES	UIC
NAVHOSP SMALLTOWN	N67890
DENTAL CLINIC	N45678

4. HW CONTACT: JANE SMITH

5. DEPARTMENT CODE: 123

6. PHONE (DSN, COMMERCIAL) 551-2642, (805) 982-2642

FAX PHONE (DSN, COMMERCIAL): 551-4832, (805) 982-4832

7. E-MAIL ADDRESS: smithj@pwc.navy.mil

8. GENERATOR CLASS: 2

9. DO YOU HAVE A POLLUTION PREVENTION PLAN?

YES X NO     

If yes, provide the date your P2 plan was last updated: 12/1/96

10. TOTAL HW DISPOSAL COST: \$1,500,000

11. NUMBER OF RCRA TSD PERMITS HELD: 0

12. DO YOU HAVE OR PARTICIPATE IN A CONSOLIDATED HAZARDOUS MATERIAL REUTILIZATION AND INVENTORY MANAGEMENT PROGRAM (CHRIMP)? YES X NO

# **PART B: CY98 HAZARDOUS WASTE OPERATIONS**

NAME AND UIC OF GENERATOR: N12345 PWC SMALLTOWN

Please read all instructions before reporting. Backlogged pounds cannot be greater than the sum of stored, recycled, treated, and disposed.

## **REPORT ALL QUANTITIES IN POUNDS. Combine wastes with the same process.**

PROCESS CODE	BACKLOG <sup>1</sup>	STORED <sup>2</sup>	RECYCLE ONSITE	RECYCLE OFFSITE	TREATED ONSITE	DISPOSED ONSITE	DISPOSED OFFSITE	TOTAL COST
FC	0	0	0	0	0	0	200	100
FP	800	750	0	0	0	0	50	10
FP	0	0	0	850	0	0	0	50
FP	0	0	100	0	0	0	0	75

Note: In this sample 800 pounds was backlogged from CY97. Backlogged quantities cannot be greater than Stored + Recycled + Treated + Disposed. The FP wastes are reported on separate lines so the costs can be associated with the disposition.

<sup>1</sup> Backlog pounds stored on 1 January 1998.

<sup>2</sup> Stored pounds as of 31 December 1998.

## **PART C: SUCCESS STORIES**

**ORGANIZATION NAME:** *PWC SMALLTOWN, CA*

**CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS:** *ROBERT JONES,  
(805) 982-2642, jonesr@pwc.navy.mil*

**DESCRIPTION OF THE SUCCESS:** *Hazardous waste quantity and cost have been greatly reduced by five distillation stills which recycle formalin, xylene, and ethyl alcohol.*

**ECONOMIC BENEFITS:** *Savings of over \$15,000 per year on replacement chemicals.*

**POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS:** *Substantial reduction of hazardous waste. For example, there has been a decrease from 4,610 lb/year to zero in alcohol.*

**OTHER BENEFITS AND COMMENTS:** *None.*

Mail completed hazardous waste information to:

COMMANDING OFFICER  
NAVAL FACILITIES ENGINEERING SERVICE CENTER  
ATTN: ESC 424/M. Anderson  
1100 23RD AVENUE  
PORT HUENEME CA 93043-4370

For assistance call Margaret Anderson, DSN 551-3008, (805) 982-3008, FAX DSN 551-4832.

### 3.4 GLOSSARY--HAZARDOUS WASTE:

**Acute HW.** Any hazardous waste with an EPA hazardous waste code beginning with the letter "P" or any of the following "F" codes: F020, F021, F022, F023, F026, and F027.

**Backlogged.** Backlogged refers to a quantity of hazardous waste which was generated and reported as stored on 31 December in a previous calendar year.

**CHRIMP.** A methodology to achieve life-cycle hazardous material control and management and pollution prevention at the command and facility levels. The Navy CHRIMP manual provides a standardized approach and guidance for development and implementation.

**Disposed.** Any hazardous waste that is manifested offsite for ultimate destruction. This includes landfilling and thermal treatment.

**Generator (Generated).** For reporting purposes, a generator is defined as an installation or activity that generates or produces any amount of hazardous waste. The term generator has been broken into three classes, according to quantities generated as follows:

**Class I, Large Quantity Generator.** An average of 1,000 kg (2,200 pounds) or more of hazardous waste or 1 kg (2.2 pounds) or more acute hazardous waste per month. (Equal to 26,400 pounds hazardous waste or more acute hazardous waste per year.)

**Class II, Small Quantity Generator.** An average of between 100-1,000 kg (220-2,200 pounds) hazardous waste and less than 1 kg (2.2 pounds) acute hazardous waste. (Equal to 2,640-26,400 pounds hazardous waste and less than 26.4 pounds acute hazardous waste per year.)

**Class III, Conditionally Exempt Small Quantity Generator.** An average of 100 kg or less of hazardous waste and less than 1 kg of acute hazardous waste per month. (Equal to less than 2,640 pounds hazardous waste and less than 26.4 pounds acute hazardous waste per year.)

If your activity is a tenant Class III generator, your host command will report for you. However, you may be requested to provide hazardous waste information to the host command. If your activity is a Class III generator, but not a tenant, you are not required to report.

**Hazardous Material (HM).** A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. Hazardous materials (HM) are listed in the Hazardous Material Regulations (49 CFR 171), Hazardous Material Table (49 CFR 172.102), and also listed in the DOT Emergency Response Guide (DOT P5800).

**Hazardous Waste (HW).** Wastes listed by the EPA, or authorized state or local agencies, or which meet characteristics specified by EPA. A simplification of the federal EPA definition is as follows:

- A waste which is listed as hazardous in RCRA regulations (40 CFR 261).
- A mixture that includes a listed hazardous waste.
- A waste, which exhibits any of the following four characteristics: ignitability, corrosivity, reactivity, or toxicity (listed in RCRA regulations 40 CFR 261.21-24).

**Hazardous Waste Generation Start Date.** As defined in 40 CFR 262.34, a generator may accumulate as much as 55 gallons of hazardous waste or one quart of acute hazardous waste at or near any point of generation without marking the container with an accumulation date. However, if you generate in excess of the 55 gallons of hazardous waste or one quart of acute hazardous waste at or near any point of generation, you must clearly mark the container holding the excess accumulation with the date the excess amount began accumulating and comply with 40 CFR 265.16 and 40 CFR 265 subparts C and D. State regulations may vary.

**Installation.** A Navy or Marine Corps base of operations composed of a number of Navy or Marine Corps activities, units and commands, located on the host's property. The installation is normally a fenceline owner. Naval Construction Battalion Center Port Hueneme is an installation with tenants such as the Naval Facilities Engineering Service Center. Normally, the host provides services to the tenants such as utilities, guard services, etc.

**Installation Restoration (IR).** A program to clean up past hazardous waste disposal or spill sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**Offsite.** A process or treatment, storage, and disposal (TSD) facility is considered offsite if the operation is not on Navy property. Note that if the reported hazardous waste is disposed by another installation that uses DRMO, the disposal location would be offsite. For example, if an installation manifests hazardous waste directly to the public works center who then sends waste to DRMO.

**Onsite.** A process or treatment, storage, and disposal facility is considered onsite if the operation is on Navy property. This includes the reporting installation or any other contiguous Navy activity.

**Pollution Prevention Annual Data Summary (P2ADS).** An annual summary report combining solid and hazardous waste. P2ADS replaces both the Hazardous Waste Annual Report (HWAR) and the Solid Waste Annual Report (SWAR). The report must be received at the ESC by 16 March for the previous calendar year.

**RCRA (Resource Conservation and Recovery Act).** Public law which mandates safe hazardous waste management--from waste generation to ultimate disposal. Regulations written by the Environmental Protection Agency (EPA) to implement this act are in 40 CFR 260-280. Some states have the authority to implement their own RCRA regulations.

**RCRA TSD Permits.** Final or interim operating permits for facilities that treat, store, or dispose of hazardous waste. The Environmental Protection Agency or authorized state agency issues permits. Do not include 90-day storage or permit by rule information.

**Recycling.** A method such as distillation or reprocessing used to render a hazardous material or hazardous waste or used oil reusable. Note that the difference between treatment and recycling is what results from each process. Treatment facilitates disposal, while recycling allows reuse--see treatment. Recycling is a method of minimizing hazardous waste, which may be done on base, through DRMO, or through a contractor. A recycled waste does not necessarily have to be returned to the generating installation.

**Storage (Stored).** Refers to items in storage awaiting treatment, recycling, or disposal as of 31 December for the reported year. An installation can store generated hazardous waste for up to 90 days without a RCRA hazardous waste permit.

**Tenant.** An activity or unit that has a separate UIC that occupies space within the geographical boundaries of another, larger, activity or installation. Tenants usually receive services from the host activity. Examples are a shore intermediate maintenance activity at a naval station, a public works center at a naval complex, a naval aviation depot at a naval air station and the Naval Facilities Engineering Service Center at Naval Construction Battalion Center Port Hueneme.

**Treatment (Treated).** A method or process designed to neutralize or render hazardous waste non-hazardous. The wastes reported under treated should all have been treated to destruction or to a non-hazardous state **onsite**. Thermal treatment includes ordnance (OB/OD) and incineration. Remember that the difference between treating and recycling is what results from each process. Treatment facilitates disposal while recycling results in reuse. See recycling. Wastewater that is treated onsite and is regulated under the Clean Water Act should not be reported.

**UIC (Unit Identification Code).** The UIC is a five character alphanumeric code and can be found in NAVCOMPT Manual Volume 2, Chapter 5. Prefix with an "N" for Navy and "M" for Marine Corps. This is also known as a Department of Defense Activity Address Code (DODAAC) and is available from your financial manager or resource manager.

### **3.5 HAZARDOUS WASTE PROCESS CODES:**

- **BD--BILGE/TANK CLEANING & DERUSTING.** When cleaning bilges and tanks, degreasers are sprayed into the tanks and bilges to remove oil, grease, and dirt. Degreasers include 'Gamazene 700' and other biological enzymes. When derusting an aqueous citric

acid solution is sprayed onto bilge or tank walls that have been stripped of paint. The citric acid chelates the oxidized iron, thereby dissolving difficult rust deposits. This generates citric acid containing wastewater contaminated with iron and traces of other chelated heavy metals. Waste examples include: citric acid, rust preventatives, oily waste, sludge, and wastewater.

- **CP--CHEMICAL PAINT STRIPPING.** For very large surfaces, like an aircraft, chemically loaded gels are applied to paint surfaces, then the paint and solvent mixture is scraped and washed off with water. This generates paint/solvent sludge which may contain chromium, other toxic metals and toxic organics from the stripping solvents (phenols, chloroacetic acids, and methylene chloride). The wastewater from this process is contaminated with toxic metals and organics. For smaller parts, chemical paint stripper is often used in a dip tank process. Waste examples include rinsewater contaminated with paint and methylene chloride.
- **EP--PLATING SHOP WASTE.** Electroplating and circuit board manufacturing processes generate similar wastes and should be listed under this process code. This includes anodizing and dying, chromate conversion, electroless nickel plating and other new electro-chemical processes, but excludes surface prep and cleaning. In circuit board manufacturing the typical wastes are chromic acid, solder flux acids, and waste from stripping photoresist with n-butyl cellosive acetate. For electroplating waste examples include: cleaning compounds, chromium or cyanide wastewater, and tank sludge contaminated with heavy metal. Do not report wastewater that is regulated by CWA regulations.
- **ES--EXPIRED SHELF LIFE and EXCESS MATERIALS, NON-SHIP.** Excess and expired shelf life materials such as paints, cleaning materials, and solvents from non-ship sources
- **FC--FLUIDS CHANGEOUT.** Hazardous waste generated as a result of spent reservoir fluid replacement. Wastes included in FC are: engine lubricant change-out, cutting fluid change-out, lubricating and hydraulic systems change out, parts washer/dip tank solvent change out, and other processes where spent reservoir fluids are replaced. The wastes from the CY96 Hazardous Waste Annual Report include: solvent change-out reported under Solvent Cleaning/Degreasing (SO), and fluids change out (FC).
- **FP--FACILITY OPERATIONS.** HW generated by daily recurring tasks performed at the activity. Recurring task examples are: pest management program applications; replacing and disposing of batteries; cleaning and maintenance operations; sludge from IWTP; etc. The FP process includes the following processes from the CY96 HWAR: Pest Management (BO), Battery Operations (BA), Building/Equipment Removal (BR), Dry-cleaning (DR), Refrigeration (ER), Fueling/Defueling (FD), Fire Fighting Operations (FF), Facilities Maintenance (IM), Industrial Operations/Equipment Maintenance (IO), Industrial Wastewater Treatment Sludge (IW), Medical (ME), Ordnance (OD), Photo and Reprographic (PH), Research and Development (RD), Torpedo Cleaning (TC), and Training (TR).

- **IR--INSTALLATION RESTORATION SITE CLEAN UP.** Hazardous waste that is generated from the clean up of a CERCLA site. This process is no longer used.
- **NR--NON-RECURRING.** Hazardous waste generated by a one-time occurrence outside an installation's normal daily operation. Wastes from an unknown source should be included in this process. These wastes include the following processes from the CY96 Hazardous Waste Annual Report: Asbestos Waste (AW), Forced Obsolescence (FO), PCB Waste (PW), Base Closure (CL), Spill Clean-up (SC), and Underground Storage Tank Removal (US).
- **PD--PAINTING/DEPAINTING/SURFACE FINISHING.** Hazardous waste generated from painting operations and rust and coating removal. Includes painting operations being performed by the activity on board ship while in port. These wastes include the following processes from the CY96 Hazardous Waste Annual Report: Mechanical Paint/Rust Removal (AB), Metal/Pipe Flushing and Cleaning (PF), and Painting Operations (PO).
- **RC--RCRA SITE CLEAN-UP.** Hazardous waste generated due to RCRA corrective actions or closure. This process is no longer used.
- **SP--SHIP OPERATIONS.** Hazardous waste generated during a ship's operations, i.e., ship generated oily wastewater from ballast water, water contaminated fuel, and emptying bilge, tanks, voids, and other compartments; expired shelf-life; excess hazardous materials; boiler layup and hydroblasting processes. Use this process for RCRA/state regulated wastes that must be manifested due to the decommissioning of a ship. These wastes include the following processes from the CY96 Hazardous Waste Annual Report: Bilge/Tank Emptying (BC), Ship's Boiler Cleaning (SB), Ships Decommissioning (SR), Ship's Excess Materials (SS), and Ship's Used Materials (SW).



### 3.6 P2ADS--CY98 HAZARDOUS WASTE FORM

#### PART A: CY98 INSTALLATION INFORMATION

1. UIC: \_\_\_\_\_
2. INSTALLATION NAME: \_\_\_\_\_
3. LIST MAJOR TENANTS OR OTHER ACTIVITIES COVERED BY THIS SURVEY:  
(Please attach continuation sheet if necessary.)

TENANT ACTIVITY NAMES	UIC

4. HW CONTACT: \_\_\_\_\_
5. DEPARTMENT CODE: \_\_\_\_\_
6. PHONE (DSN, COMMERCIAL): \_\_\_\_\_  
FAX PHONE (DSN, COMMERCIAL): \_\_\_\_\_
7. E-MAIL ADDRESS: \_\_\_\_\_
8. GENERATOR CLASS: \_\_\_\_\_
9. DO YOU HAVE A POLLUTION PREVENTION PLAN? YES \_\_\_\_\_ NO \_\_\_\_\_  
If yes, provide the date your P2 Plan was last updated: \_\_\_\_\_
10. TOTAL HW DISPOSAL COST: \$ \_\_\_\_\_
11. NUMBER OF RCRA TSD PERMITS HELD: \_\_\_\_\_
12. DO YOU HAVE OR PARTICIPATE IN A CONSOLIDATED HAZARDOUS  
MATERIAL REUTILIZATION AND INVENTORY MANAGEMENT PROGRAM  
(CHRIMP)?  
YES \_\_\_\_\_ NO \_\_\_\_\_

**PART B: CY98 HAZARDOUS WASTE OPERATIONS**

NAME AND UIC OF GENERATOR: \_\_\_\_\_

Please read all instructions before reporting. Backlogged pounds cannot be greater than the sum of stored, recycled, treated, and disposed.

**REPORT ALL QUANTITIES IN POUNDS.**

PROCESS CODE	<u>BACKLOG<sup>1</sup></u>	<u>STORED<sup>2</sup></u>	RECYCLE <u>ONSITE</u>	RECYCLE <u>OFFSITE</u>	TREATED <u>ONSITE</u>	DISPOSED <u>ONSITE</u>	DISPOSED <u>OFFSITE</u>	TOTAL <u>COST</u>
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<sup>1</sup> Backlog pounds stored on 1 January 1998.

<sup>2</sup> Stored pounds as of 31 December 1998.

## **PART C: SUCCESS STORIES**

**ORGANIZATION NAME:**

**CONTACT, TELEPHONE NUMBER, E-MAIL ADDRESS:**

**DESCRIPTION OF THE SUCCESS:**

**ECONOMIC BENEFITS:**

**POLLUTION PREVENTION AND ENVIRONMENTAL BENEFITS:**

**OTHER BENEFITS AND COMMENTS:**

Mail completed P2ADS information to:

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